

NATIONAL SCIENCE FOUNDATION

4201 Wilson Blvd.

Arlington, VA 22230

Directorate for Geosciences

Division of Earth Sciences

INSTRUMENTATION AND FACILITIES Guidelines for the Preparation of Proposals

Scope of Program

The Instrumentation and Facilities Program (IF) in the Division of Earth Sciences (EAR) will consider proposals for: (1) the acquisition of new research equipment or the modernization of existing equipment, (2) the development of new instrumentation or techniques that extend current research capabilities in the earth sciences, (3) the support of shared facilities that make complex and expensive instrument systems available on a national or regional basis, and (4) the support of research technicians.

Eligible Applicants

Proposals will be accepted from colleges, universities, and other not-for-profit institutions in the U.S. with formal research programs in areas of science supported by EAR. Unaffiliated individuals or persons with affiliations other than the preceding should refer to section I.C of the latest NSF Grant Proposal Guide (**GPG**, available at <http://www.nsf.gov>) and are encouraged to discuss their proposal with IF program staff.

Proposal Preparation

All NSF proposals must now be submitted via Fastlane (www.fastlane.nsf.gov; see **GPG Section I.E**). Principal investigators who anticipate a need to depart from the recommended format (e.g., page limit) must contact the IF Program Director for approval prior to submission (see **GPG II.A**).

Proposals submitted to the IF program for review should specify GPG 03-2 and "Instrumentation and Facilities - Division of Earth Sciences" in the appropriate blocks of the Cover Sheet.

Special attention should be paid to the following when submitting a proposal to the IF/EAR program:

(1) Title

The title of the proposal should convey its main topic. Proposals for new equipment, equipment upgrade, development of new instrumentation or technique, support of facilities, and support of technicians should, respectively, have titles beginning with:

"Acquisition of _____," "Upgrading of _____," "Development of _____," "Facility Support: _____," "Technician Support: _____"

(2) Project Description

Proposals for *equipment acquisition or upgrade* must include a description of the research projects of the principal investigator(s) and other non-casual users for which the equipment will be used. The description of the research projects and the equipment should be comprehensive enough to allow reviewers to evaluate the merit of the research and the extent to which the equipment is essential and appropriate.

Proposals for the *development of new instrumentation or techniques* must include a description of the instrument design or technique that is sufficiently detailed for reviewers to evaluate its technical capabilities and potential benefit to research in the Earth sciences.

Proposals for the *support of a facility* must include a description of the technical capabilities of the facility and the impact that these capabilities will make on the science. The size and nature of the science community that will make principal use of the facility should also be described, along with any evidence of that community's desire to pool resources in support of the facility.

Proposals for the *support of a technician* must include a description of the laboratory and/or field responsibilities that will be assumed by the technician. The description should be detailed enough so that reviewers can evaluate the extent of the technician's contribution to the research of an individual principal investigator, group of investigators, or a department-wide research program.

(3) Maintenance and Operation

Proposals for facilities or complex equipment must include a section describing the provisions for their maintenance and operation. The qualifications of persons immediately in charge and the source of funds to meet the cost of maintenance and operations should be given. If user fees are involved, a description of how they will be assessed should be included. For facilities or shared-use departmental equipment, the proposal should include a management plan for dealing with questions of access by users.

(4) Inventory of Existing Equipment and Technician Positions

Proposals for equipment must list all comparable items of equipment at the submitting institution or to which the applicants have access elsewhere. The proposal must also contain certification, signed by the authorized organizational representative, that the equipment requested (a) is essential and not reasonably available and accessible to the project, and (b) if funded by NSF, will be subject to reasonable inventory controls and maintenance procedures.

Proposals requesting technician support must include a short description of all existing technician positions in the submitting department and their source of funding. The proposal should make it clear that the request is for support of a full-time technician position.

(5) Budget

The budget section of proposals for equipment acquisition or upgrade should indicate the current price and any discounts available for the total equipment package requested, itemized by major components. Relevant manufacturers quotes should be scanned into the supplementary documents section of the proposal. *To be eligible for review, all proposals requesting permanent equipment must include a statement committing the institution to cost-sharing of no less than 30% of the cost of the permanent equipment. The dollar amount of cost-sharing must be shown on line M of the NSF budget form 1030.*

Personnel costs directly attributable to instrument or technique development efforts or to the operation of a facility may be requested. Personnel costs are not ordinarily supported on grants for acquisition or upgrading of equipment. Exceptions might include the establishment of new laboratories by early-career investigators. PI's are advised to contact the program before including salary support in any instrument acquisition or upgrade proposal.

Grants for technician salaries are intended to encourage and supplement institutional support of full-time technician positions. In order to accommodate the diversity of institutional approaches to the problem of technician support, the IF program will grant support of technicians in two phases. Phase I proposals may currently request a maximum of \$75,000/year for three years. This ceiling is adjusted periodically and the proposer is urged to contact the program for the latest maximum. The budget section should make it clear how the combined NSF and institutional support will result in a full-time technician position during this period. Phase I grantees will be eligible to apply for an additional two-year Phase II award at the same annual level. In addition to the evaluation criteria already listed, Phase II proposals require a letter signed by an institutional representative that commits the University to underwriting the technician's full salary for a minimum of two years following any Phase II award should other funding sources not be available.

(6) Submission

Proposals are due on or before the target dates of 15 January or 15 July for guaranteed consideration by the IF Spring or

Fall review panel, respectively.

Evaluation Criteria

The general NSF merit review criteria (intellectual merit/broader impacts) used in evaluation of proposals are described in the Grant Proposal Guide. Criteria specifically appropriate to the evaluation of proposals to IF will depend on the nature of the request and may include: (1) the intrinsic merit of the research for which the equipment, technique, facility, or effort of a technician is intended, (2) the number of investigators who will substantially benefit from the equipment or service of a technician and the strength of their research programs, (3) the degree to which equipment, technique, facility, or the aid of a technician is appropriate and essential for the intended research, (4) the ability to operate and provide technical support for complex equipment during its expected lifetime, and (5) the ability to provide access to a facility intended to serve a regional or national research community.

Award Mechanisms

The standard NSF grant provisions will apply to awards made from this program. The specific award instrument used will depend on the nature of the proposal and could be a grant or a cooperative agreement.

Inquiries

These guidelines and further information pertaining to the Instrumentation and Facilities Program are available via the World Wide Web at:

<http://www.geo.nsf.gov/ear/if/facil.htm>

Any additional inquiries are welcome and should be addressed to:

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